

A REVISION OF THE GENUS *PEPHYSENA* WITH
DESCRIPTONS OF TWO NEW SPECIES
(HEMIPTERA: LYGAEIDAE)

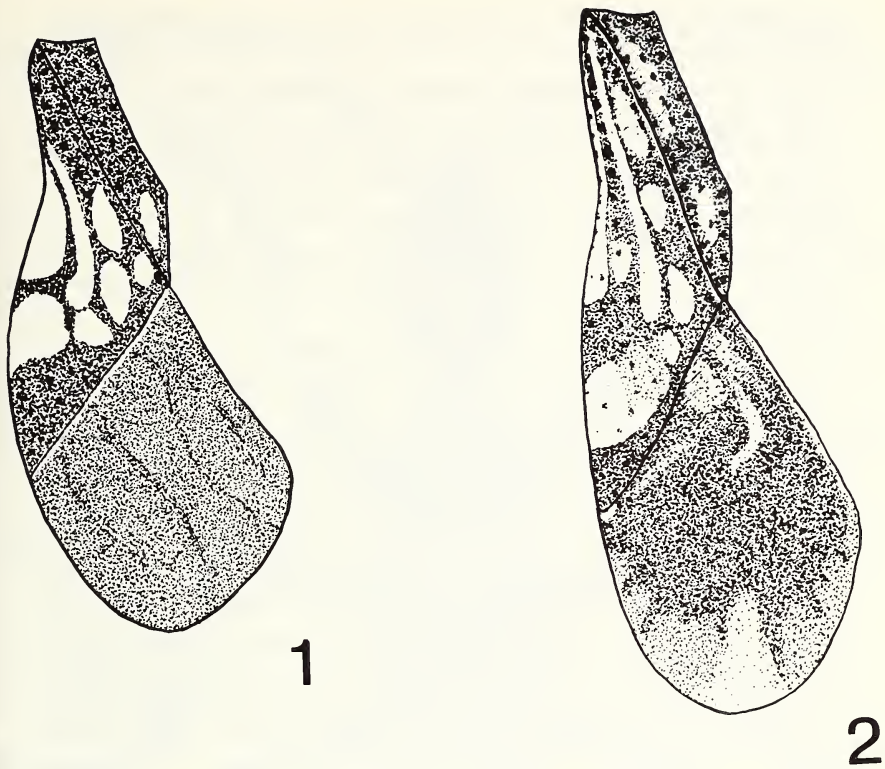
B. J. Harrington

Abstract.—A diagnosis for the Neotropical genus *Pephyse* and a key for identification of five species are presented. Two new species, *P. longirhynchus* and *P. microlevis*, both from Brazil and Surinam are described. Dorsal views of both holotypes are provided.

The Neotropical lygaeid genus *Pephyse* Distant belongs to the tribe Myodochini in the subfamily Rhyparochrominae. Distant's (1882) description of the genus included the description of two species, *P. levis* and *P. insignis*. There was no further taxonomic activity concerning this genus until 1954 when H. G. Barber briefly redescribed *Pephyse*; designated *P. levis* as the type species; noted that *P. insignis* did not belong to the genus *Pephyse*; and described two new species, *P. picta* from Ecuador and *P. fuscata* from Brazil, Trinidad and Venezuela. After examining the type specimen of *P. insignis*, Scudder (1962) removed *P. insignis* to the new monotypic genus *Distingphyses*, which Harrington's (1980) generic level analysis of the tribe Myodochini recognizes as the sister group of *Pephyse*.

Pephyse and *Distingphyses* both have elongate oval eyes, a generally ant mimetic habitus and a unique characteristic texture of nearly contiguous pits or punctures on the head. Yet these two genera are readily distinguishable. *Pephyse* can be recognized by the possession of a long, cylindrical, stalk-like neck; the dome-like convex nature of the head between and immediately behind the eyes; the very long slender antennae (but with the first segment short and not attaining the apex of the tylus); and a markedly impunctate band on the anterior one-third to one-half of the posterior pronotal lobe. *Distingphyses* has the head abruptly constricted behind the eyes but lacks a stalk-like neck; the first antennal segment attains the apex of the tylus; the head is markedly flattened and depressed between the eyes; and the entire posterior pronotal lobe is uniformly punctate. In addition, the lateral corial margin is beaded or crenate for most of its length in *Distingphyses* but smooth in *Pephyse*.

The present paper provides the first key to the species of *Pephyse* including two new species described here from Brazil and Surinam. In the following key and descriptions all measurements are in mm and the Villalobos color chart (Palmer, 1962) has been used as a standard.



Figs. 1, 2. Hemelytral color patterns: 1. *Pephysena fuscosa*, 2. *Pephysena picta*.

Key to Species of *Pephysena*

- 1. Wing membrane entirely and uniformly dark (blackish brown); femora of all legs uniformly dark; ground color of clavus and corium dark, strongly contrastingly marked with white maculae as in Figure 1 *fuscosa*
- Wing membrane, marked mesally or apically with a pale area, or with one or more pale finger-like markings along veins (Figs. 2, 3 and 4); one or more pair of legs with femora pale on proximal one-third to one-half, or all femora entirely light orangish buffy brown or tawny; clavus and corium in part buffy yellow, not marked exclusively in a contrasting black and white pattern 2
- 2(1). Meso- and metafemora uniformly light orangish buffy brown or tawny; wing membrane dark save for a central oval pale spot which is “enclosed” and does not approach posterior wing margin (Fig. 3); head not declivent anteriorly, preocular portion porrect,

- prolonged and snout-like with apex of tylus readily visible from above (Fig. 3) **longirhynchus**
- Meso- and metafemora dark distally and contrastingly pale proximally; wing membrane with pale finger-like markings along veins (Fig. 4) or with a pale median vitta extending forward from posterior margin (Fig. 2); head declivent anteriorly, apex of tylus generally not readily apparent in dorsal view (Fig. 4) 3
 - 3(2). Wing membrane dark on basal (anterior) one-half, lighter on apical (posterior) one-half, with several pale finger-like markings present along veins (Fig. 4) 4
 - Wing membrane without several pale finger-like markings along veins, largely dark, patterned as in Figure 2 with a single pale median vitta extending forward from posterior margin *picta*
 - 4(3). Proximal ends of fore femora dark, concolorous with trochanters; clavus with a slender elongate pale macula adjacent to anterior one-half of claval suture and another elongate pale spot paralleling claval commissure; total length in dorsal view 6.5–8.0 mm *levis*
 - Proximal ends of fore femora pale, contrasting with darker distal one-half to two-thirds of femora and with trochanters; clavus uniformly dark, dusky brown or chestnut, lacking pale slender maculae described above (but with broader heavy gray pruinose light-reflecting patches in the same positions giving a deceptively similar light-marked appearance); total length in dorsal view 4.5–6.0 mm **microlevis**

Pephysema longirhynchus Harrington, new species

Figure 3

Head, anterior pronotal lobe, scutellum basally and laterally and membrane of hemelytra blackish brown; a medial oval spot in membrane and ground color of clavus and corium very pale grayish cream; anterior pronotal collar, posterior pronotal lobe, tylus, juga, femora, tibiae, epimera, episterna, medioapical portion of scutellum and transverse bands on corium at apex and just posterior to claval commissure tawny; tarsi, labium, antennal segment IV, distal portion of segment III and extreme distal end of segment II fuscous; antennal segment I and major portions of segments II and III as well as indistinctly marked areas on clavus and corium between buffy yellow and pale tawny; abdomen light chestnut.

Antennae, legs, labium and abdomen smooth, impunctate and moderately shining; head shining with numerous nearly contiguous micropunctures, this surface reflecting the light in a characteristic broken pattern; pronotum, scutellum and hemelytra including membrane dull, clothed with a pale gray or whitish pruinosity which is densest or most apparent in a broad band across anterior one-third of posterior pronotal lobe; anterior one-third of

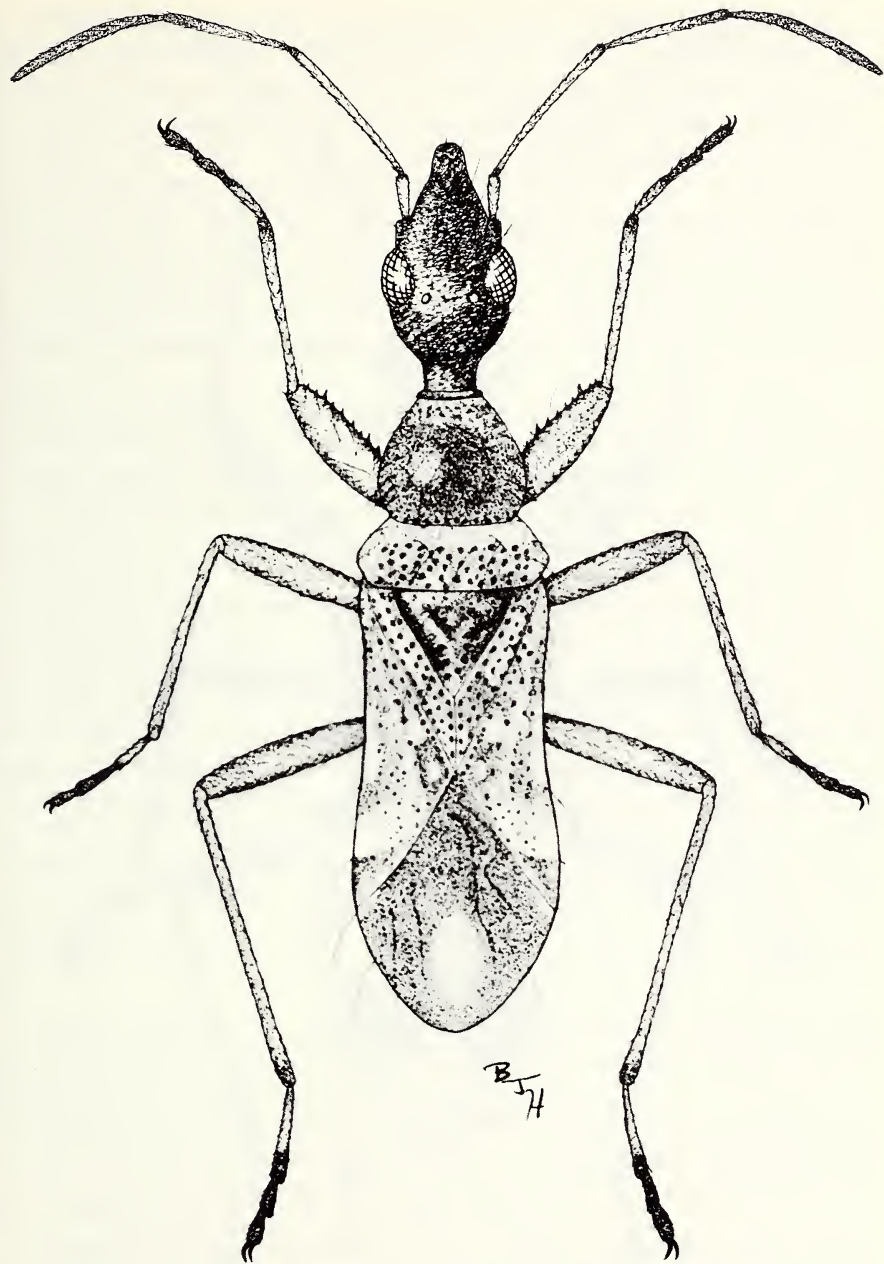


Fig. 3. *Pephysena longirhynchus* Harrington. Holotype, dorsal view.

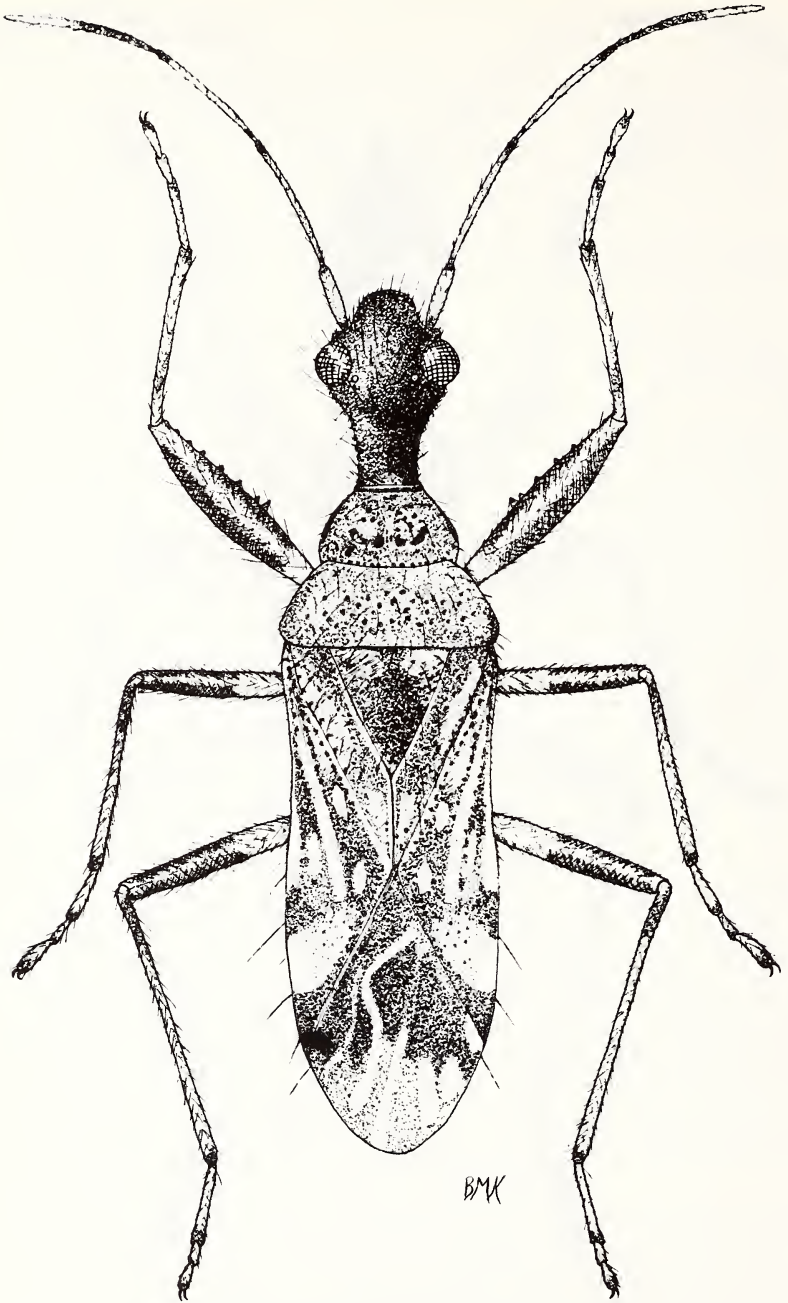


Fig. 4. *Pephysena microlevis* Harrington. Holotype, dorsal view.

posterior pronotal lobe impunctate; anterior pronotal lobe only sparsely punctate with small shallow indistinct punctures; lines or grooves demarking anterior pronotal collar and transverse impression with larger deeper more closely spaced and distinct punctures; punctures equally large or larger on scutellum, clavus, corium and a band across posterior two-thirds of posterior pronotal lobe, excluding wide impunctate lateral areas at the humeral angles (punctures large dark and extremely apparent against light backgrounds of clavus, corium and posterior pronotal lobe); much of body surface, particularly legs and antennae, clothed uniformly with fine short recumbent hairs; fewer long distinctive erect hairs present over entire surface of head, fore femora and scutellum and on dorsal surfaces of both pronotal lobes.

Head little declivent anteriorly with pre-ocular portion prolonged and snout-like; tylus readily apparent in dorsal view; post-ocular region of head elongate, constricted posteriorly to form a stalk-like neck, post-ocular portion of head immediately behind eyes convex and dome-like; eyes sessile, longitudinally oval; length head 1.34; width 0.80; interocular distance 0.46. Anterior pronotal lobe globose, with a distinct anterior collar demarked by a line-like groove; posterior margin of pronotum straight across base of scutellum, humeral angles squarely truncate; length anterior pronotal lobe 0.68; width 0.74; length posterior pronotal lobe 0.40; width across humeral angles 1.02; width transverse impression 0.64. Length scutellum 0.54; width 0.48. Length corium 1.76; distance apex corium to apex membrane 0.72; length claval commissure 0.32; distance apex clavus to apex corium 0.78. Labium extending onto abdominal sternum II (first visible); length labial segments I 0.72, II 0.92, III 0.94, IV 0.38; bucculae quite short but expanded and leaf-like, projecting forward on either side of labial base. Antennae slender; length antennal segments I 0.26, II 0.78, III 0.68, IV 0.88. Total length 4.94.

Holotype: Surinam: ♂ P. H. v. Doesburg Jr. In Leiden Museum No. 1054.

Paratypes: Surinam: 1♂ Same data as holotype. Brazil: 1 (abdomen missing) Mato Grosso 12°15'S, 51°47'W. Campo 16-X-1968, O. W. Richards. In Leiden Museum No. 1056 and J. A. Slater collection.

In the paratype from Surinam the anterior pronotal lobe is lighter than that of the holotype and closer to chestnut in color, hence, contrasting less markedly with the posterior pronotal lobe. In the Brazilian paratype the head is slightly less elongate and a little broader.

P. longirhynchus is quite different from other described species of *Pephysena*. Specimens can be readily identified by the distinctive, pale, medial, oval spot in an otherwise dark wing membrane and the characteristic porrect, prolonged, snout-like preocular portion of the head. In addition, the punctures on the posterior pronotal lobe, scutellum and clavus of *P.*

longirhynchus are larger and deeper than those of other species and are very apparent against a light-colored background.

Pephysena microlevis Harrington, new species

Figure 4

Head blackish brown; anterior pronotal lobe and scutellum dusky brown; anterior one-half of hemelytral membrane fuscous; posterior one-half of membrane smoke gray with distinctive pale gray finger-like markings along veins; posterior pronotal lobe, clavus, broad transverse bands on corium at apex and at level of posterior end of claval commissure and a fine line along entire membranous margin of corium chestnut; coxae, distal one-half to two-thirds of all femora, proximal and distal portions of all tibiae, antennal segment IV, distal one-fourth to one-third of segments II and III, proximal one-half of segment I and abdomen between light chestnut and tawny; other portions of antennal segments and a sinuate vitta along medial fracture in corium buffy yellow; corium narrowly marked with sordid white along lateral margin to level of posterior end of claval commissure, a broad subapical corial macula and three small spots at level of claval commissure (two along claval suture and a third laterad of median fracture) also sordid white; labial segments I, III and IV sepia; segment II sordid buffy yellow; distal end of tarsal segment I and segment II light fuscous; remainder of tarsal segment I, segment II, most of tibial length and proximal one-third to one-half of femur on all legs pale buffy yellow.

Antennae, legs, labium and abdomen smooth, impunctate, moderately shining and evenly clothed with fine recumbent hairs; longer erect hairs present on forelegs, head, scutellum and dorsal surface of pronotum; head shining with numerous nearly contiguous micropunctures, this surface reflecting the light in a characteristic broken pattern; pronotum, scutellum and hemelytra including membrane dull, clothed with a pale gray pruinosity which is densest and most apparent on anterior portion of posterior pronotal lobe, in a pair of patches on base of scutellum and in elongate patches on clavus, one along claval suture at level of scutellum and a smaller one parallel to claval commissure (these areas of heavy pruinosity give a light appearance to and partially mask the actual dark color of the integument beneath); pruinosity of anterior pronotal lobe broken by irregular anastomosing shining spots scattered over calli and by a shining lateral line on propleuron; anterior pronotal lobe very faintly and sparsely punctate laterad; a close row of distinct punctures marking transverse impression; posterior pronotal lobe impunctate on anterior one-third; posterior two-thirds of posterior pronotal lobe (save humeral angles), scutellum and hemelytra distinctly punctate.

Head sharply decurved anteriorly from a dome-like vertex between ocelli; juga and tylus not visible in dorsal view, even antenniferous tubercles barely

visible from above; post-ocular portion of head broad immediately behind eyes, constricted more posteriorly to form a cylindrical stalk-like neck; eyes rounded and protruding; length head 1.00; width 0.94; interocular distance 0.54. Anterior pronotal lobe globose; with a distinct anterior collar demarcated by a line-like groove; transverse impression deeply line-like; posterior pronotal margin straight across base of scutellum, humeral angles rounded; length anterior pronotal lobe 0.46; width 0.70; length posterior lobe 0.40; width across humeral angles 1.12; width transverse impression 0.64. Length scutellum 0.42; width 0.52. Length corium 1.96; distance apex corium to apex membrane 0.74; length claval commissure 0.42; distance apex clavus to apex corium 0.90. Labium extending onto anterior portion of mesosternum, not attaining mesocoxae; length labial segments I 0.50, II 0.50, III 0.32, IV 0.30; bucculae short and rounded, cupped around base of labium. Antennae slender; length antennal segments I 0.36, II 0.78, III 0.72, IV 0.88. Total length 4.70.

Holotype: Brazil: ♂ Natal, Mann. coll. In American Museum of Natural History.

Paratypes: Surinam: 1♂ Paramaribo 26-II-1962 P. H. v. Doesburg Jr. Brazil: 1♀ Taperina; 2♀♀, 3♂♂ Santarem. In Leiden Museum, Carnegie Museum (Acc. No. 2966), J. A. Slater and B. J. Harrington collections.

Color variation in the type series is slight and only one of degree. In several of the paratypes the head is less abruptly decumbent anteriorly than is that of the holotype so that the tylus is apparent in dorsal view.

P. microlevis is closest in appearance to, and might be mistaken for, *P. levis*. However, *P. microlevis* is a smaller species, typically about 5 mm long, with the basal one-third of the fore femora pale and contrasting with the darker distal portion and the clavus uniformly chestnut although marked by two elongate patches of pale gray pruinosity that occur in the same general areas as the actual pale vittae on the clavus of *P. levis*. These features will serve to distinguish specimens of *P. microlevis* from those of *P. levis* which are generally about 7 mm in total length; show distinct pale claval vittae paralleling the claval suture and claval commissure; and have the fore femora not pale at the base but uniformly tawny. In both of these species the proximal one-third to one-half of the meso- and metafemora are pale in contrast to the distal portions.

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Department of Entomology, University of Wisconsin, Madison, Wisconsin 53706.

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